

**A Comparative Study of the Effect of
Misoprostol Versus Methergine & Oxytocin
on Blood Loss in the first two days of the
post-Partum period.**

*Thesis submitted for the partial fulfillment of Master degree in
Obstetrics and Gynaecology*

618.3
S. M.

Presented by
SALLY MOSTAFA SAHER
MBBCh Faculty of Medicine
Ain Shams University (1994)



59971

Under Supervision of
Professor Dr. MOHAMED ABDEL HAMID YEHIA
Professor of Obstetrics and Gynaecology
Ain Shams University

Dr. KHALED MOHAMED AZIZ DIAB
Assistant Professor of Obstetrics and Gynaecology
Ain Shams University

Dr. AHMED RAMY MOHAMED RAMY
Lecturer of Obstetrics and Gynaecology
Ain Shams University



**Faculty of Medicine
Ain Shams University
1998.**

Handwritten signature or initials.



Acknowledgment

- ◆ I would like to express my deep appreciation and sincere gratitude to Prof. Dr. Mohamed Abdel Hamid Yehia Professor of Obstetrics and Gynaecology, Ain Shams University, for giving me the privilege of working under his supervision, for his encouragement, and continuous help,.
- ◆ I am also grateful to Dr. Khaled Mohamed Aziz Diab, Asisstant Professor of Obstetrics and Gynaecology, Ain Shams University, for his kind advises and supervision. His appreciated help is beyond acknowledgment.
- ◆ I am greatly indebted to Dr. Ahmed Ramy Mohamed Ramy, Lecturer of Obstetrics and Gynaecology, Ain Shams University, for his valuable guidance and suggestions. His cooperative attitude was of great help to complete the work.

List Of Tables

| Subject | Page No. |
|---|----------|
| <i>Table (1):</i> Shows comparison of Demographic Data between standard (O-E) gp n = 70 and Misoprostol (M) gp. n=70. | 73 |
| <i>Table (2):</i> Shows comparison of Data of 1 st and 2 nd stage intervals (labor type, anesthesia used, fetal sex and weight) of standard (O-E) gp and Misoprostol (M) gp. | 73 |
| <i>Table (3):</i> Shows comparison of Demographic Data between gp. Ia (200 mcg) gp. n=25 & gp Ib (400 mcg) n = 45. | 74 |
| <i>Table (4):</i> Shows comparison of Data of 1 st and 2 nd stage intervals (labor type, anesthesia used, fetal sex and weight) between gp. Ia (200 mcg) gp. n=25 & gp Ib (400 mcg) n = 45. | 74 |
| <i>Table (5):</i> Shows comparison of out come assessment between standard (O-E) gp and Misoprostol (M) gp. | 75 |
| <i>Table (6):</i> Shows comparison of out come assessment between gp. Ia (200 mcg) gp. n=25 & gp Ib (400 mcg) n = 45. | 75 |
| <i>Table (7):</i> Shows comparison of haematological assessment Intra partum and post partum between standard (O-E) gp and Misoprostol (M) gp. | 76 |
| <i>Table (8):</i> Shows comparison of haematological assessment Intra partum and post partum between gp. Ia (200 mcg) gp. n=25 & gp Ib (400 mcg) n = 45. | 77 |
| <i>Table (9):</i> Shows comparison of vital data intra partum and post partum between standard (O-E) gp and Misoprostol (M) gp. | 78 |
| <i>Table (10):</i> Shows comparison of vital data intra partum and post partum between gp. Ia (200 mcg) gp. n=25 & gp Ib (400 mcg) n = 45. | 79 |

List Of Figures

| Subject | Page No. |
|---|----------|
| <i>Figure (1)</i> : Hypothetical prostanoid acid skeleton | 4 |
| <i>Figure (2)</i> : The enzymatic pathway of arachidonic acid metabolism | 8 |
| <i>Figure (3)</i> : The pathways of arachidonic acid metabolism. | 8 |
| <i>Figure (4)</i> : The cyclo-oxygenase pathway leads to the prostaglandins. | 10 |
| <i>Figure (5)</i> : Thromboxane and Prostacyclin. | 11 |
| <i>Figure (6)</i> : Prostaglandin Inhibition. | 21 |
| <i>Figure (7)</i> : The arrangement of myosin and actin in a muscle fibre. | 48 |
| <i>Figure (8)</i> : How the uterine muscle forms a “living ligature” to occlude blood vessels . | 48 |
| <i>Figure (9)</i> : The factors involved in blood coagulation and their interactions. | 49 |
| <i>Figure (10)</i> : Direct tocographic measurements of the duration and character of uterine contraction following the injection of various oxytocics given in the third stage of labor. | 54 |
| <i>Figure (11)</i> : Placental separation : Mathews Duncan Method & Schultze Method. | 56 |
| <i>Figure (12)</i> : Brandt – Andrews manoeuvre. | 59 |
| <i>Figure (13)</i> : Controlled cord traction | 60 |
| <i>Figure (14)</i> : Credé’s method of obtaining expulsion of the placenta . | 61 |

Table Of Contents

| Subject | Page No. |
|--|----------|
| Introduction . | 1 |
| Aim of Work. | 2 |
| Review of literature. | |
| Prostaglandins. | 3 |
| Prostaglandin – analogues. | 22 |
| Third stage of labor . | 47 |
| Third stage of labor (Clinical Management). | 57 |
| Materials and Methods. | 67 |
| Results. | 70 |
| Discussion. | 80 |
| Summary and Conclusion. | 87 |
| References. | 90 |
| Arabic Summary. | |

Introduction :

The normal amount of blood loss varies between 200-300 ml, a blood loss ≥ 500 ml is considered as post-partum hemorrhage, (*El-Refaey et al., 1997*). Reducing the likelihood of post-partum hemorrhage by active management of the third stage of labor could play an important part in reducing maternal morbidity and mortality (*Mc Donald et al., 1993*).

The routine prophylactic administration of an oxytocic agent is an integral part of the active management of labor and seems to reduce the risk of post-partum hemorrhage by about 40% (*Prendiville et al., 1988a*), the two most widely used oxytocic agents being oxytocin and Ergometrine (*MC Donald et al., 1993*).

However the use of Ergometrine is associated with several problems being contraindicated in women with hypertension in pregnancy which may affect about one in seven women, in addition because oxytocic agents are not stable at high temperature they require special storage conditions, these storage requirements are an important hurdle to the widespread use of oxytocics in the developing world (*El-Refaey et al., 1997*).

Misoprostol is a prostaglandin E_1 analogue that does not cause hypertension and therefore may be useful in decreasing the amount of blood loss in developing countries (*EL-Refaey et al., 1997*).

Prendiville et al., (1989) emphasized that Misoprostol in this situation may be superior to oxytocin and ergometrine.

Misoprostol is marketed for oral use for the treatment of Peptic ulcer. It does not require special storage conditions and has a shelf life of several years (*Gaud et al., 1992*); Also it has been shown to be a potent uterotonic agent and has been investigated in induction of abortion, cervical priming and induction of labor (*El-Refaey, 1995 & Fletcher et al., 1994*).

Aim of The Work :

To compare the effect of rectal administration of Misoprostol versus Ergometerine and oxytocin administered intramuscularly as a uterotonic agent on blood loss in post-partum period.

